Author Index to Volume 65

References with (A) are to abstracts of papers presented at meetings of the American Physical Society. References with (L) are to Letters to the Editor, and those with (T) designate title only.

Alexander, J. H. (see Lapp, R. E.)—253(A)
Allen, Mildred (see Billings, Louisa)—355(T)
Allison, H. W. (see Moore, George E.)—254(A)
Anderson, R. T. (see Kruger, P. Gerald)—62(A)
Anderson, Scott. Mechanism of electrolytic oxidation of aluminum—351(A)
Antonoff, George. On some physical properties in the problem of rubber—64(A)
Aston, J. G. Potential barriers to internal rotation in organic compounds—344(T)
Auger, P. and A. Rogozinski. Non-shower producing particles in A showers—64(A)

Baker, W. O. X-ray diffraction in high polymers—257(T)
Barnes, James C. Transient arc discharge between a stationary and a rotating electrode—356(A)
Barnes, R. B. Physical methods of analysis of synthetic and natural rubber—60(T)
Barrett, C. S. Electron microscope in metallurgical research—344(T)
—— X-ray diffraction as a tool in metallurgy—257(T)
Beeck, Otto. Physical methods in hydrocarbon research—151(T)
Benedict, D. L. (see Hanson, A. O.)—33
Bensen, Igor. Portable demonstration electron microscope—353(A)
Bethe, H. A. and F. C. Von der Lage. Method of determining the energies and wave functions in solids—255(A)
Billings, Louisa, Lilly Lorentz, and Mildred Allen. Review of the papers given at the January 14–15 meeting of the American Association of Physics Teachers at Columbia University—355(T)
Blatt, J. M. Charge distribution around protons—352(A)
Bless, A. A. Biological action of x-rays as a function of intensity—356(A)
Bloomenthal, S. Proposed substitute for instrument oil—64(A)
Boggs, F. W. (see Works, C. N.)—349(A)
Bose, D. M., Bibha Choudhuri, and M. Sinha. Cosmic-ray meson spectra—341
Boyer, R. F. (see Spencer, R. S.)—60(T)
Braendle, H. A. and W. B. Wiegand. GR-S an elastically inverted polymer—60(T)
Brentano, J. C. M. and H. Froula. Evaluation of the intensities of line patterns recorded on a moving film in its application to the measurement of x-ray intensities—254(A)
Broadwell, S. J. (see Goetz, Alexander)—151(T)
Brody, Selma Blazer (see D'Eustachio, D.)—348(A)
Brown, R. H. and R. B. Mears. New research tool-irreversible solution potential measurements—351(A)
Brown, S. Leroy. Frequency-band character of shock vibrations—153(A)
Bryant, R. C. (see Kelsey, R. H.)—60(T)
Buerger, M. J. X-ray diffraction in the study of soap—257(T)
Bunge, Mario. New representation of types of nuclear forces—249(L)

Calbick, C. J. Energy distribution of electrons within dense electron beams—353(A)
—— Historical background of electron optics—344(T)
Carnvale, Anthony. Small gulf gravimeter—345(A)
Chakrabarty, S. K. and R. C. Majumdar. On the spin of the meson—206(L)
Chang, W. Y. Regularities in energy levels of light nuclei—352(A)
Ch'en, Shang-Yi. New absorption band of alkalis in the presence of foreign gases—338
Chertock, George. Hydrogen content of white dwarf stars—51
Choudhuri, Bibha (see Bose, D. M.)—341
Clarke, E. T. and J. W. Irvine, Jr. Excitation functions obtained by bombardment of sodium bromide with 14-Mev deuterons—352(A)
Cleveland, Forrest F. Raman spectra of 2,5-dimethyl-1,5-hexadiene and 2,5-dimethyl-2,4-hexadiene—65(A)
—— **and Donald E. Lee.** Raman spectra of normal-heptane and normal-hexane—350(A)
Cobas, A. and W. E. Lamb, Jr. On the extraction of electrons from a metal surface by ions and metastable atoms—327
Coggeshall N. D. and M. Muskat. Paths of electrons, and ions in non-uniform magnetic fields—352(A)
Colbey, N. C. (see Kruger, P. Gerald)—62(A)
Coleman, Howard S. (see Ham, W. R.)—348(A)
—— **and H. L. Yeagley.** Comments on the anisotropy of metals—56
Coolidge, Albert Sprague. Experimental verification of the theory of the continuous spectra of H_2 and D_2—236
Cooper, John N. Auger transitions and widths of x-ray energy levels—155
Copeland, Paul L. and Carroll Lufcy. Stability of a mercury arc as a function of cathode pool area—66(A)

Dakin, T. W. (see Works, C. N.)—349(A)
Davey, Wheeler P. Mechanism of crystal growth and its consequences—344(T)
Debye, P. Light scattering in solutions—60(T)
Deisenrod, M. Y. (see Zhdanov, A. P.)—202(L)
D'Eustachio, D. and Selma Blazer Brody. Spontaneous time-dependent changes in crystalline material—348(A)
Deutsch, Martin and Lloyd G. Elliott. Disintegration schemes of radioactive substances. VIII. Mn^{54} and Co^{58}—211
Dillon, J. H. (see Kelsey, R. H.)—60(T)
—— (see Tobolsky, A. V.)—60(T)
——, **I. B. Prettyman, and G. L. Hall.** Hysteretic and

Author Index to Volume 65

References with (A) are to abstracts of papers presented at meetings of the American Physical Society. References with (L) are to Letters to the Editor, and those with (T) designate title only.

Alexander, J. H. (see Lapp, R. E.)—253(A)
Allen, Mildred (see Billings, Louisa)—355(T)
Allison, H. W. (see Moore, George E.)—254(A)
Anderson, R. T. (see Kruger, P. Gerald)—62(A)
Anderson, Scott. Mechanism of electrolytic oxidation of aluminum—351(A)
Antonoff, George. On some physical properties in the problem of rubber—64(A)
Aston, J. G. Potential barriers to internal rotation in organic compounds—344(T)
Auger, P. and A. Rogozinski. Non-shower producing particles in A showers—64(A)

Baker, W. O. X-ray diffraction in high polymers—257(T)
Barnes, James C. Transient arc discharge between a stationary and a rotating electrode—356(A)
Barnes, R. B. Physical methods of analysis of synthetic and natural rubber—60(T)
Barrett, C. S. Electron microscope in metallurgical research—344(T)
—— X-ray diffraction as a tool in metallurgy—257(T)
Beeck, Otto. Physical methods in hydrocarbon research—151(T)
Benedict, D. L. (see Hanson, A. O.)—33
Bensen, Igor. Portable demonstration electron microscope—353(A)
Bethe, H. A. and F. C. Von der Lage. Method of determining the energies and wave functions in solids—255(A)
Billings, Louisa, Lilly Lorentz, and Mildred Allen. Review of the papers given at the January 14–15 meeting of the American Association of Physics Teachers at Columbia University—355(T)
Blatt, J. M. Charge distribution around protons—352(A)
Bless, A. A. Biological action of x-rays as a function of intensity—356(A)
Bloomenthal, S. Proposed substitute for instrument oil—64(A)
Boggs, F. W. (see Works, C. N.)—349(A)
Bose, D. M., Bibha Choudhuri, and M. Sinha. Cosmic-ray meson spectra—341
Boyer, R. F. (see Spencer, R. S.)—60(T)
Braendle, H. A. and W. B. Wiegand. GR-S an elastically inverted polymer—60(T)
Brentano, J. C. M. and H. Froula. Evaluation of the intensities of line patterns recorded on a moving film in its application to the measurement of x-ray intensities—254(A)
Broadwell, S. J. (see Goetz, Alexander)—151(T)
Brody, Selma Blazer (see D'Eustachio, D.)—348(A)
Brown, R. H. and R. B. Mears. New research tool-irreversible solution potential measurements—351(A)
Brown, S. Leroy. Frequency-band character of shock vibrations—153(A)
Bryant, R. C. (see Kelsey, R. H.)—60(T)
Buerger, M. J. X-ray diffraction in the study of soap—257(T)
Bunge, Mario. New representation of types of nuclear forces—249(L)

Calbick, C. J. Energy distribution of electrons within dense electron beams—353(A)
—— Historical background of electron optics—344(T)
Carnvale, Anthony. Small gulf gravimeter—345(A)
Chakrabarty, S. K. and R. C. Majumdar. On the spin of the meson—206(L)
Chang, W. Y. Regularities in energy levels of light nuclei—352(A)
Ch'en, Shang-Yi. New absorption band of alkalis in the presence of foreign gases—338
Chertock, George. Hydrogen content of white dwarf stars—51
Choudhuri, Bibha (see Bose, D. M.)—341
Clarke, E. T. and J. W. Irvine, Jr. Excitation functions obtained by bombardment of sodium bromide with 14-Mev deuterons—352(A)
Cleveland, Forrest F. Raman spectra of 2,5-dimethyl-1,5-hexadiene and 2,5-dimethyl-2,4-hexadiene—65(A)
—— **and Donald E. Lee.** Raman spectra of normal-heptane and normal-hexane—350(A)
Cobas, A. and W. E. Lamb, Jr. On the extraction of electrons from a metal surface by ions and metastable atoms—327
Coggeshall N. D. and M. Muskat. Paths of electrons, and ions in non-uniform magnetic fields—352(A)
Colbey, N. C. (see Kruger, P. Gerald)—62(A)
Coleman, Howard S. (see Ham, W. R.)—348(A)
—— **and H. L. Yeagley.** Comments on the anisotropy of metals—56
Coolidge, Albert Sprague. Experimental verification of the theory of the continuous spectra of H_2 and D_2—236
Cooper, John N. Auger transitions and widths of x-ray energy levels—155
Copeland, Paul L. and Carroll Lufcy. Stability of a mercury arc as a function of cathode pool area—66(A)

Dakin, T. W. (see Works, C. N.)—349(A)
Davey, Wheeler P. Mechanism of crystal growth and its consequences—344(T)
Debye, P. Light scattering in solutions—60(T)
Deisenrod, M. Y. (see Zhdanov, A. P.)—202(L)
D'Eustachio, D. and Selma Blazer Brody. Spontaneous time-dependent changes in crystalline material—348(A)
Deutsch, Martin and Lloyd G. Elliott. Disintegration schemes of radioactive substances. VIII. Mn^{54} and Co^{58}—211
Dillon, J. H. (see Kelsey, R. H.)—60(T)
—— (see Tobolsky, A. V.)—60(T)
——, **I. B. Prettyman, and G. L. Hall.** Hysteretic and

elastic properties of rubberlike materials under dynamic shear stresses—60(T)
Dodd, Laurence Ellsworth. Reversed cyclotron—353(A)
Donnay, J. D. H. Diffraction methods in organic chemistry —257(T)

Edlén, Bengt. Magnetic-dipole transitions in the configurations $5p^5$, $5p^4$, and $6p^5$ of xenon and radon—248(L)
Ehrenhaft, Felix. Continuation of experiments with the magnetic current—256(A)
—— Decomposition of water by the so-called permanent magnet and the measurement of the intensity of the magnetic current—287(L)
—— Decomposition of water with the permanent magnetic —349(A)
—— New experiments about the magnetic current—62(A)
Eisenschitz, R. Configurations of a binary mixed crystal—204(L)
Eisner, E. Interpretation of the angular distribution of alphas from $Li^7(P;\alpha)\alpha$—85
Ekstein, H. Free vibrations of aeolotropic bodies—254(A)
Elliott, Lloyd G. (see Deutsch, Martin)—211
Emmett, P. H. Measurement of the surface area of carbon black by low temperature absorption—60(T)
Epstein, Paul S. On the elastic vibrations of cylindric shells —152(A)
Estermann, I., O. C. Simpson, and O. Stern. Deflection of a beam of cesium atoms by gravity—346(A)
Evans, Robley D. and Clark Goodman. Alpha-helium method for determining geological ages—216

Fankuchen, I. and H. Mark. Crystallization of long-chain compounds—60(T)
Feshbach, Herman. On the perturbation of boundary conditions—307
Fett, G. H. Series generator as a negative resistance—62(A)
Field, J. E. (see Gehman, S. D.)—60(T)
Fisher, Leon H. Sparking potentials in air in a plane parallel gap at and below atmospheric pressure—153(A)
Fox, R. E., J. A. Hipple, and T. W. Williams. Mass spectrometer with a small magnet—353(A)
Frevel, L. K. Diffraction methods in analytical chemistry—257(T)
Froula, H. (see Brentano, J. C. M.)—254(A)

Gallagher, Charles J. Adsorption of thorium on tantalum —46
Gamow, G. Evolution of contracting stars—20
Gehman, S. D. and J. E. Field. X-ray observations on the structure of rubber and the size and shape of rubber crystallites—60(T)
Geisler, A. H. (see Keller, F.)—344(T)
Glick, H. L. and Sidney Siegel. Magnetic permeability at very rapid rates of change of induction—348(A)
Goetz, Alexander, S. J. Broadwell, and D. C. Warner. Problem of rendering sea water potable—151(T)
Goldhaber, M. Nuclear disintegrations produced by cosmic radiation—344(T)
——, **G. S. Klaiber, and G. Scharff-Goldhaber.** Investigation of high energy gamma-ray of Na^{24} by the photoneutron method—61(A)
Goodman, Clark (see Evans, Robley D.)—216
Gray, R. B. Operating characteristics of ceramic dielectrics with dielectric constants in excess of 1000—348(A)
Greene, J. B. (see Kruger, P. Gerald)—62(A)
Griffin, Donald R. Echo-sounding by flying bats—355(T)
Groetzinger, G. K. (see Kruger, P. Gerald)—62(A)
Groth, E. J. and L. N. Liebermann. Precision measurement of the velocity of sound at supersonic frequencies using a microphone—350(A)
Grove, D. J. (see Hipple, J. A.)—346(A)
Gulbransen, Earl A. Kinetics of the thin oxide film formation of iron and copper—350(A)

Hall, G. L. (see Dillon, J. H.)—60(T)
Ham, W. R. and Howard S. Coleman. Curie transition in ferromagnetic alloys and glass containing nickel—348(A)
Hammer, Sigmund. Address of welcome—344(T)
Hanson, A. O. and D. L. Benedict. Independent determination of fixed points on the high voltage scale—33
Harkins, William D. (see Jura, George)—66(A)
—— **and George Jura.** New adsorption isotherm and polymolecular films on solids—66(A)
Harrison, A. E. Kinematics of reflection oscillators—344(T)
Hasler, M. F. Present status of spectroscopic methods of analysis—152(A)
Hayden, R. (see Lewis, L. G.)—346(A)
Hazen, Wayne E. Average ionization and energy loss of cosmic-ray mesotrons in air—259
—— Average specific ionization of the mesotrons 100 ft. underground—152(A)
—— Cascade showers and nuclear disintegrations at 10,000 feet—67
—— Note concerning the multiple production of penetrating secondary cosmic rays in lead—249(L)
Heitz, M. P. (see Winans, J. G.)—65(A)
Hibdon, Carl T., M. L. Pool, and J. D. Kurbatov. Transmutation of titanium—351(A)
Hipple, J. A. (see Fox, R. E.)—353(A)
—— **and D. J. Grove.** Amplifier with logarithmic response —346(A)
Hofstetter, Henry William. Comparison of Donders' and Duane's tables of the amplitude of ocular accommodation—357(T)
Hsueh, Chao-Wang. Light source for the primary standard of wave-length—151(A)
Hu, Ning (see Jauch, J. M.)—289(L)
Hu, Tsi-Ming. On the term values of x-ray spectra—76
Hudson, Douglas Rennie. Thixotropy in silver amalgams—247(L)
Hurst, L. K. and M. L. Pool. *K*-electron capture in radioactive silver—60(A)
—— **and M. L. Pool.** Radioactive silver—351(A)
Hutter, R. G. E. (see Marton, L.)—161
Hyatt, James M. Physics at Simmons College—355(T)

Inglis, D. R. (see Swartz, C. D.)—80
Iona, Mario, Jr., Marcel Schein, and Julius Tabin. Secondary radiation produced by cosmic-ray primaries in paraffin—64(A)
Irvine, J. W., Jr. (see Clarke, E. T.)—352(A)

Iwanenko, D. and I. Pomeranchuk. On the maximal energy attainable in a betatron—343(L)

Jaffé, George. On the currents carried by electrons of uniform initial velocity—91
James, H. M. Present status of theory of elasticity of rubber—60(T)
Jauch, J. M. (see Pauli, W.)—255(A)
—— **and Ning Hu.** On the mixed theory of nuclear forces—289(L)
Jennings, B. (see Swartz, C. D.)—80
Jura, George (see Harkins, William D.)—66(A)
—— **and William D. Harkins.** Adsorption method for the determination of the area of a solid—66(A)

Keller, F. and A. H. Geisler. Extending microscopic examination of metals—344(T)
Kelsey, R. H., J. H. Dillon, H. A. Schultz, and R. C. Bryant. New extrusion plastometer—60(T)
Kikuchi, Chihiro (see Podolsky, Boris)—228
King, Allen. Tensile strength of water—256(A)
Klaiber, G. S. (see Goldhaber, M.)—61(A)
Kohman, Truman P. Counter corrections at high counting rates—63(A)
Korff, S. A. Production of neutrons by cosmic radiation—344(T)
—— (see Kupferberg, Max)—253(A)
—— **and R. D. Present.** On the role of polyatomic gases in fast counters—274
—— **and R. D. Present.** Quenching mechanism in "self-quenching" counters—253(A)
Krasnooshkin, P. E. On supersonic waves in cylindrical tubes and the theory of the acoustic interferometer—190
Kruger, P. Gerald (see Ogle, W. E.)—61(A)
——, **J. R. Richardson, G. K. Groetzinger, E. M. Lyman, W. E. Ogle, M. E. Nelson, G. Schwarz, J. B. Greene, R. T. Anderson, N. C. Colbey, R. W. Lee, C. E. McClellan, D. Scag, Lloyd Smith, and F. K. Tallmadge.** Cyclotron which allows the accelerated particles to emerge in a direction parallel to the dee interface—62(A)
Kupferberg, K. and F. Reines. Determination of mesotron mass-lifetime ratio by correlation with meteorological data—253(A)
Kupferberg, Max and S. A. Korff. Determination of the rate of production in paraffin of neutrons by the cosmic radiation at sea level—253(A)
Kurbatov, J. D. Deviations in the classification of stable nuclei—351(A)
—— (see Hibdon, Carl T.)—351(A)
—— (see Kurbatov, M. H.)—351(A)
—— (see Lutz, Arthur L.)—61(A)
—— **and M. H. Kurbatov.** Application of radioactive tracers to the chemistry of minute concentrations—357(T)
—— **and M. L. Pool.** Isolation of pure radioactive cerium—61(A)
Kurbatov, M. H. (see Kurbatov, J. D.)—357(T)
—— **and J. D. Kurbatov.** Classification of stable nuclei by means of particles of mass numbers three and four—351(A)
Kyropoulos, S. Friction of binary alloys with thin film lubrication—152(A)

Lamb, W. E. (see Cobas, A.)—327
Landé, Alfred and Llewellyn H. Thomas. Finite self-energies in radiation theory. Part III—175
Lapp, R. E. Measurement of high energy electrons in *A* showers—347(A)
—— Origin of large cosmic-ray bursts—63(A)
—— (see Schein, Marcel)—63(A)
—— **and J. H. Alexander.** Experiments on large cosmic-ray bursts in relation to *A* showers—253(A)
Lee, Donald E. (see Cleveland, Forrest F.)—350(A)
Lee, R. W. (see Kruger, P. Gerald)—62(A)
Levy, Saul. Simplified method of plate calibration for analytical spectroscopy—256(A)
Lewis, E. W. (see Lewis, L. G.)—63(A)
—— **and L. G. Lewis.** Radio of the average current generated by cosmic-ray air showers to the total current observed in the ionization chamber—346(A)
Lewis, L. G. (see Lewis, E. W.)—346(A)
—— **and R. Hayden.** Influence of statistical fluctuations on the observed size-frequency distribution of bursts in a single ionization chamber—346(A)
—— **and E. W. Lewis.** Study of cosmic-ray air showers using the method of coincident bursts in two unshielded ionization chambers—63(A)
Liebermann, L. N. Apparatus for the determination of dispersion at supersonic frequencies—350(A)
—— (see Groth, E. J.)—350(A)
Liebowitz, Benjamin. Kinematical probability—255(A)
Lindsay, R. B. Some reflections on the relation of mathematics and physics—355(T)
Lockenvitz, A. E. High sensitivity string galvanometer—153(A)
Lorentz, Lilly (see Billings, Louisa)—355(T)
Loring, H. S., C. E. Schwerdt, and L. Marton. Studies of purified preparations of the MV strain of poliomyelitis virus by means of the electron microscope—354(A)
Lufcy, Carroll (see Copeland, Paul L.)—66(A)
Lutz, Arthur L., M. L. Pool, and J. D. Kurbatov. Beta-ray spectra of the artificially radioactive isotopes, Pb^{205} and Bi^{207}—61(A)
Lyman, E. M. (see Kruger, P. Gerald)—62(A)

Majumdar, R. C. (see Chakrabarty, S. K.)—206(L)
Margenau, Henry. Physics and phenomenology—344(T)
—— (see Meyerott, Roland)—255(A)
Mark, H. (see Fankuchen, I.)—60(T)
Marton, L. Electron microscope study of ferromagnetic domains—353(A)
—— (see Loring, H. S.)—354(A)
—— **and R. G. E. Hutter.** On apertures of transmission type electron microscopes using magnetic lenses—161
Mason, L. S. Thermopile for micro-calorimetry—345(A)
Mattoon, Richard W. Polymer spectra of a cyanine dye—65(A)
McClellan, C. E. (see Kruger, P. Gerald)—62(A)
McCue, J. J. G. Ionization cross section of the silver L_{III} state—168

McGowan, F. K. and J. G. Winans. Sensitized fluorescence of copper and test of selection rule for collisions of the second kind—349(A)
McGreary, Robert (see Siegel, Sidney)—347(A)
McMaster, R. C. X-ray inspection of spotwelds in aluminum alloys—153(A)
Mears, R. B. (see Brown, R. H.)—351(A)
Meissner, K. W. (see Mundie, L. G.)—65(A), 265
Merchant, M. Eugene. Mechanics of the metal cutting process. I. Simple straight-edged tool and continuous chip—347(A)
Merrill, Paul W. Forbidden lines of Ca II in a stellar spectrum—152(A)
Meyerott, Roland and Henry Margenau. Exchange forces between Li^+ and He, and the mobility of Li^+ in He—255(A)
Miles, John. Excitation of electromagnetic waves in waveguides and cavities—153(A)
Miller, Franklin, Jr. Auger electrons resulting from K capture—254(A)
Millikan, R. A., H. V. Neher, and W. H. Pickering. Further studies on the least penetrating component of the incoming cosmic rays—152(A)
Mooney, M., W. C. Wolstenholme, and D. S. Villars. Drift and relaxation of rubber—60(T)
Moore, George E. and H. W. Allison. Thermionic effects of thin films of alkaline earth oxides on metals—254(A)
Moquin, William N. and M. L. Pool. Artificial radioactivity of columbium and zirconium—60(A)
Morgan, F. Variation of the γ-ray activity of radioactive minerals with particle size—352(A)
—— **and M. Muskat.** Effect of rate of shear on the viscosity of oils—255(A)
Mrozowski, S. Forbidden lines of bismuth Bi I—65(A)
Mundie, L. G. and K. W. Meissner. Isotope shift in magnetism—65(A), 265
Murray, R. T. K. Recording negative ions and electrons in a gas with a Geiger-Müller counter—63(A)
Muskat, M. (see Coggeshall, N. D.)—352(A)
—— (see Morgan, F.)—255(A)

Neher, H. V. (see Millikan, R. A.)—152(A)
Nelson, M. E. (see Kruger, P. Gerald)—62(A)
Noble, R. H. New double monochromator for the infra-red region—357(T)
Nordheim, L. W. On the lateral spread of cosmic-ray showers—344(T)

Ogle, W. E. (see Kruger, P. Gerald)—62(A)
—— **and P. Gerald Kruger.** Energy of gamma-rays from $Na^{24}Mg^{24}$—61(A)
Onsager, Lars. Crystal statistics. I. A two-dimensional model with an order-disorder transition—117
Opatowski, I. Refractive index in electron optics—54, 62(A)
Orndoff, John D. Crystal structure of tellurium—348(A)

Page, Leigh. Electrical oscillations of a prolate spheroid. Paper II. Prolate spheroidal wave functions—98
—— Electrical oscillations of a prolate spheroid. Paper III. The antenna problem—111
Parker, Allan E. Opportunities in and training for industrial optics—355(T)
Patterson, A. L. Ambiguities in the x-ray analysis of crystal structures—195
—— Ideas behind x-ray diffraction—257(T)
Pauli, W. and J. M. Jauch. On the application of Dirac's method of field-quantization to the problem of emission of low frequency photons—255(A)
Pauling, Linus. Specificity of intermolecular interaction—151(T)
Payne, Mary Hewlett. Interpretation of the spinning electron with bipolar coordinates—39
Perfilov, N. A. (see Zhdanov, A. P.)—202(L)
Perkins, Henry A. Magneto-current phenomena in nickel—355(A)
Pickering, W. H. (see Millikan, R. A.)—152(A)
—— **and S. C. Snowden.** Voltage regulator for high voltages—151(A)
Pierce, J. R. Limiting stable current in electron beams in the presence of ions—353(A)
Platt, John R. Some double-bond absorptions in the vacuum ultraviolet—350(A)
Podolsky, Boris and Chihiro Kikuchi. Generalized electrodynamics. Part II—Quantum—228
Pomeranchuk, I. (see Iwanenko, D.)—343(L)
Pool, M. L. Potential nuclear monochromatic electron sources—353(A)
—— Spontaneous neutron emission—357(T)
—— (see Hibdon, Carl T.)—351(A)
—— (see Hurst, L. K.)—60(A), 351(A)
—— (see Kurbatov, J. D.)—61(A)
—— (see Lutz, Arthur L.)—61(A)
—— (see Moquin, William N.)—60(A)
Present, R. D. (see Korff, S. A.)—253(A), 274
Prettyman, I. B. (see Dillon, J. H.)—60(T)
—— (see Tobolsky, A. V.)—60(T)

Radavich, F. J. and R. Smoluchowski. Influence of pressure on intermetallic diffusion—62(A); Erratum—248(L)
Rank, D. H. Photoelectric measurement of weak emission spectra—344(T)
Reichenbach, Hans. Philosophical foundations of quantum mechanics—344(T)
Reines, F. (see Kupferberg, K.)—253(A)
Rense, Wm. A. Dynamics of rise of water in a capillary tube—356(A)
Richardson, J. R. (see Kruger, P. Gerald)—62(A)
Robinson, H. A. Some physical properties of commercial polymerized methyl methacrylate—60(T)
Rogers, F. T., Jr. Note on the inductive measurement of magnetic field strength—354(A)
Rogozinski, Anatole. High energy particles in Auger showers—207
—— On the problem of the existence of mesotrons in Auger showers—291
—— Theory of counter experiments on collision electrons ejected in air by mesotrons—300, 347(A)
—— (see Auger, P.)—64(A)
Rolf, Pauline. Accommodation coefficient of helium on platinum—185

Rossi, H. E. (see Swartz, C. D.)—80
—— **and C. D. Swartz.** Angular distribution of alphas from $F^{19}(P, \alpha)O^{16}$—83
Roth, F. L. (see Wood, L. A.)—60(T)
Ruark, Arthur E. Differential equations for the probability distribution of events—88
—— Note on events distributed according to chance—287(L)
—— Simple relaxation models to explain the dependence of fracture type of deformation-speed and temperature—356(A)
—— (see Squires, Rodney M.)—356(A)
Rush, J. H. Animated diagram of the oscillating L-C circuit—357(T)

Sack, H. S. Hysteresis losses in high polymers—60(T)
Sakmann, B. W. Electric birefringence of colloidal solutions—254(A)
Sarabhai, Vikram. Method of shower anticoincidences for measuring the meson component of cosmic radiation—203(L), 250(L)
Scag, D. (see Kruger, P. Gerald)—62(A)
Scharff-Goldhaber, G. (see Goldhaber, M.)—61(A)
Schein, Marcel. Nature of cosmic-ray phenomena—344(T)
—— (see Iona, Mario, Jr.)—64(A)
—— **and R. E. Lapp.** Analysis of large cosmic-ray bursts—63(A)
Schultz, H. A. (see Kelsey, R. H.)—60(T)
Schuman, Robert P. and W. H. Shaffer. Rotation vibration energies of the non-linear XYZ molecular model—357(T)
Schwarz, G. (see Kruger, P. Gerald)—62(A)
Schwerdt, C. E. (see Loring, H. S.)—354(A)
Seitz, Frederick. Modern theories of plasticity in solids—344(T)
Shaffer, W. H. (see Schuman, Robert P.)—357(T)
Siegel, Sidney (see Glick, H. L.)—348(A)
—— **and Robert McGreary.** Anomalous behavior of the electrical resistivity of some iron-cobalt alloys—347(A)
Simpson, O. C. (see Estermann, I.)—346(A)
Sinha, M. (see Bose, D. M.)—341
Skellett, A. M. Magnetically focused radial beam vacuum tube—344(T)
Smith, Lloyd (see Kruger, P. Gerald)—62(A)
Smoluchowski, R. (see Radavich, F. J.)—62(A), 248(L)
Snowden, S. C. Analysis of a multivibrator—151(A)
—— (see Pickering, W. H.)—151(A)
Spencer, R. S. and R. F. Boyer. Second-order transition in high polymers—60(T)
Squires, Rodney M. and Arthur E. Ruark. Statistical variations in the maximum load and elongation of copper wire and their relation to size effect—356(A)
Stambaugh, R. B. Retraction of stretched rubber—250(L)
Stanton, H. E. Electrons in equilibrium with mesotrons—64(A)
Stern, O. (see Estermann, I.)—346(A)
Strobel, Charles Kennedy. Effect of intense electrostatic fields on the reflectivity of tungsten—283
Swann, W. F. G. Role of the primary cosmic radiation—344(T)
Swartz, C. D. (see Rossi, H. H.)—83
——, **H. H. Rossi, B. Jennings, and D. R. Inglis.** Angular distribution of alphas from $Li^7(P, \alpha)\alpha$—80

Tabin, Julius. Production of mesotrons by non-ionizing radiation at altitudes of 10,618 ft. and 14,230 ft.—64(A)
—— (see Iona, Mario, Jr.)—64(A)
Tallmadge, F. K. (see Kruger, P. Gerald)—62(A)
Thomas, Llewellyn H. (see Landé, Alfred)—175
Tobolsky, A. V., I. B. Prettyman, and J. H. Dillon. Stress relaxation of natural and synthetic rubber stocks—60(T)
Townes, Charles Hard. Theory of cathode sputtering in low voltage gaseous discharges—319

Villars, D. S. (see Mooney, M.)—60(T)
Von der Lage, F. C. (see Bethe, H. A.)—255(A)

Walchli, Harold E. Performance tests on the Penn State type of G-M circuits—346(A)
Wang, T. J. Use of the netatron in nuclear physics—357(T)
Warburton, F. W. Magnetic potential energy and the Zeeman effect—349(A)
Warner, D. C. (see Goetz, Alexander)—161(T)
Wataghin, G. Relativity and supplementary indeterminacy—205(L)
Weinstock, Robert. Continuous x-ray spectrum: note to experimenters—150(L)
—— Inelastic scattering of slow neutrons—1
Wiegand, W. B. (see Braendle, H. A.)—60(T)
Wiens, Jacob H. Structure of λ5461 of mercury (198)—58(L)
Williams, Robley C. and Ralph W. G. Wyckoff. Thickness of electron microscopic objects—344(T)
Williams, T. W. (see Fox, R. E.)—353(A)
Winans, J. G. (see McGowan, F. K.)—349(A)
—— **and M. P. Heitz.** Energy of dissociation of Hg_2—65(A)
Wolfenstein, Lincoln. Calculations on extensive cosmic-ray showers in air—346(A)
Wolstenholme, W. C. (see Mooney, M.)—60(T)
Wood, L. A. and F. L. Roth. Stress-temperature relations in natural rubber—60(T)
Works, C. N., T. W. Dakin, and F. W. Boggs. Resonant cavity method for measuring dielectric properties at ultra-high frequencies (50–1000 megacycles)—349(A)
Worley, R. E. Note on the spectrum of N_2—249(L)
Wyckoff, W. G. (see Williams, Robley C.)—344(T)

Yates, K. P. Infra-red spectrum of methyl fluoride—357(T)
Yeagley, H. L. (see Coleman, H. S.)—56
Yensen, T. D. Hipersil, the new transformer iron—344(T)

Zarem, A. M. Explosion of ether-air mixtures by electrical sparks—153(A)
Zhdanov, A. P., N. A. Perfilov, and M. Y. Deisenrod. Anomalous rate of nuclear disintegration effected by cosmic rays—202(L)
Zumstein, R. V. Radioactive isotopes of tantalum—357(T)
Zwicky, Fritz. Morphology of nebulae and clusters of nebulae—151(T)

Analytic Subject Index to Volume 65

References with (A) are to abstracts of papers presented at meetings of the American Physical Society. References with (L) are to Letters to the Editor.

Accommodation coefficient
Of He on Pt, P. Rolf—185
Acoustics
Dispersion at supersonic frequencies, L. N. Liebermann—350(A)
Perturbation of boundary conditions, H. Feshbach—307
Precision measurement of velocity of sound, supersonic frequencies, E. J. Groth and L. N. Liebermann—350(A)
Supersonic waves in cylindrical tubes, P. E. Krasnooshkin—190
Adsorption (see **Thermionic emission; Emitting surfaces**)
Arcs (see **Discharge of electricity in gases**)
Astrophysics
Evolution of contracting stars, G. Gamow—20
Forbidden lines of Ca II, stellar spectrum, P. W. Merrill—152(A)
Hydrogen content of white dwarf stars, G. Chertock—51
Atomic and molecular beams
Deflection of beam of Cs atoms by gravity, I. Estermann, O. C. Simpson, and O. Stern—346(A)

Biophysics
Poliomyelitis virus electron microscope studies, H. S. Loring, C. E. Schwerdt, and L. Marton—354(A)
Biological action of x-rays, A. A. Bless—356(A)

Capillary action (see **Surface tension**)
Colloids
Electric birefringence, B. W. Sakmann—254(A)
Constants, physical
Fixed points on high voltage scale, A. O. Hanson and D. L. Benedict—33
Standard of wave-length, light source, C. W. Hsueh—151(A)
Cosmic radiation
Cascade showers, nuclear disintegrations, W. E. Hazen—67
Coincident bursts in two chambers; Energy spectrum, L. G. Lewis and E. W. Lewis—63(A)
Collision electrons ejected by mesotrons, A. Rogozinski—347(A); 300
Current generated by showers to total current, E. W. Lewis and L. G. Lewis—346(A)
Electrons in equilibrium with mesotrons, H. E. Stanton—64(A)
Extensive showers in air, L. Wolfenstein—346(A)
He annihilation rays, R. A. Millikan, H. V. Neher, and W. H. Pickering—152(A)
High energy particles in *A* showers, A. Rogozinski—207; R. E. Lapp—347(A)
Ionization and energy loss of mesotrons, W. E. Hazen—259
Large bursts, analysis, M. Schein and R. E. Lapp—63(A)
Large bursts in relation to *A* showers, R. E. Lapp and J. H. Alexander—253(A)
Large bursts, origin, R. E. Lapp—63(A)
Meson spectra, D. M. Bose, B. Choudhuri, and M. Sinha—341
Mesotron mass-lifetime ratio, K. Kupferberg and F. Reines—253(A)
Mesotrons in *A* showers, A. Rogozinski—291
Mesotrons 100 ft. underground, W. E. Hazen—152(A)
Multiple production of penetrating secondary rays, W. E. Hazen—249(L)
Non-shower producing particles in *A* showers, P. Auger and A. Rogozinski—64(A)
Nuclear disintegration, anomalous rate, A. P. Zhdanov, N. A. Perfilov, and M. Y. Deisenrod—202(L)
Nuclear forces, J. M. Jauch and N. Hu—289(L)
Production of mesotrons at high altitudes, J. Tabin—64(A)
Production of neutrons in paraffin, M. Kupferberg and S. A. Korff—253(A)
Secondary radiation in paraffin, M. Iona, Jr., M. Schein, and J. Tabin—64(A)
Shower anticoincidences, meson component, V. Sarabhai—203(L); 250(L)
Size-frequency distribution of bursts, statistical fluctuations, L. G. Lewis and R. Hayden—346(A)
Spin of meson, S. K. Chakrabarty and R. C. Majumdar—206(L)
Crystal structure
Ambiguities in x-ray analysis, A. L. Patterson—195
Configurations of a binary mixed crystal, R. Eisenschitz—204(L)
Of Te, J. D. Orndoff—348(A)
Spontaneous time-dependent changes, D. D'Eustachio and S. B. Brody—348(A)
Crystalline state
Anisotropy of metals, H. S. Coleman and H. L. Yeagley—56
Determination of area of crystalline solid, G. Jura and W. D. Harkins—66(A)
Electrical resistivity of some Fe-Co alloys, S. Siegel and R. McGreary—347(A)
Energies and wave functions in solids, H. A. Bethe and F. C. Von der Lage—255(A)
Intermetallic diffusion, influence of pressure, F. J. Radavich and R. Smoluchowski—62(A); 248(L)
Thixotropy in silver amalgams, D. R. Hudson—247(L)
Two-dimensional model, L. Onsager—117

Dielectric constants (see **Dielectrics and dielectric properties**)
Dielectrics and dielectric properties
Ceramic dielectrics, R. B. Gray—348(A)
Resonant cavity method for measuring dielectric prop-

erties, C. N. Works, T. W. Dakin, and F. W. Boggs—349(A)

Discharge of electricity in gases
Arc between stationary and rotating electrode, J. C. Barnes—356(A)
Cathode sputtering, theory of, C. H. Townes—319
Electrical sparks in ether-air mixtures, A. M. Zarem—153(A)
Electron beams in presence of ions, J. R. Pierce—(353A)
Polyatomic gases in fast counters, S. A. Korff and R. D. Present—274
Recording negative ions with a G-M counter, R. T. K. Murray—63(A)
Sparking potentials, L. H. Fisher—153(A)
Stability of Hg arc, P. L. Copeland and C. Lufcy—66(A)

Discharge of electricity in high vacua (see also **Vacuum tubes**)
Currents carried by electrons, G. Jaffé—91
Energy distribution of electrons in beams, C. J. Calbick—353(A)

Disintegration and excitation of nucleus (see also **Radioactivity**)
Angular distribution of α's from $F^{19}(p, \alpha)O^{16}$, H. H. Rossi and C. D. Swartz—83
Angular distribution of α's from $Li^7(p, \alpha)\alpha$, C. D. Swartz, H. H. Rossi, B. Jennings, and D. R. Inglis—80
Angular distribution of α's, interpretation, E. Eisner—85
Anomalous rate by cosmic rays, A. P. Zhdanov, N. A. Perfilov, and M. Y. Deisenrod—202(L)
Fixed points on high voltage scale, A. O. Hanson and D. L. Benedict—33

Dissociation, heat of
Of Hg_2, J. G. Winans and M. P. Heitz—65(A)

Dynamics
Perturbation of boundary conditions, H. Feshbach—307

Elasticity
Free vibrations of aeolotropic bodies, H. Ekstein—254(A)
Physical properties of rubber, G. Antonoff—64(A)
Rate of retraction of stretched rubber, R. B. Stambaugh—250(L)
Relaxation of models, A. E. Ruark—356(A)
Shock vibrations, frequency character, S. L. Brown—153(A)
Statistical variation; maximum load and elongation, R. M. Squires and A. E. Ruark—356(A)
Tensile strength of water, A. King—256(A)
Vibrations of cylindric shells, P. S. Epstein—152(A)

Electrical circuits (see **Methods and instruments**)

Electrical conductivity and resistance
Of Fe-Co alloys, S. Siegel and R. McGreary—347(A)

Electrolysis
Mechanism of oxidation of Al, S. Anderson—351(A)

Electromagnetic theory
Finite self-energies in radiation theory, A. Landé and L. H. Thomas—175
Generalized electrodynamics, B. Podolsky and C. Kikuchi—228
Oscillations of prolate spheroid, wave functions, L. Page—98; the antenna problem, L. Page—111
Waves in wave-guides and cavities, J. Miles—153(A)

Electron optics
Electron microscopes, apertures, L. Marton and R. G. E. Hutter—161
Refractive index, I. Opatowski—54; 62(A)

Electrons
Spinning electron, bipolar coordinates, M. H. Payne—39
Betatron, maximal energy obtainable in, D. Iwanenko and I. Pomeranchuk—343

Electrons, secondary
By impact of ions and metastable atoms, A. Cobas and W. E. Lamb, Jr.—327

Electro-optical effects
Birefringence of colloidal solutions, B. W. Sakmann—254(A)

E/m
Paths of ions in non-uniform magnetic fields, N. D. Coggeshall and M. Muskat—352(A)

Equations of state
Adsorption isotherm for films, W. D. Harkins and G. Jura—66(A)

Errata
Influence of pressure on intermetallic diffusion, F. J. Radavich and R. Smoluchowski—248(L)
Ultraviolet absorption spectrum of N_2 in extreme ultraviolet, R. E. Worley—249(L)

Films, properties of
Adsorption isotherm; polymolecular films on solids, W. D. Harkins and G. Jura—66(A)
Kinetics of oxide film formation, E. A. Gulbransen—350(A)

Fluorescence
Of Cu, selection rule, F. K. McGowan and J. G. Winans—349(A)

Friction
Of binary alloys, thin film lubrication, S. Kyropoulos—152(A)

Geophysics
Alpha-helium method, geological ages, R. D. Evans and C. Goodman—216
Small gravimeter, A. Carnvale—345(A)

Instruments (see **Methods and instruments**)

Ionization by collision
Ionization cross section of Ag L_{III} state, J. J. G. McCue—168

Ions, mobility
Exchange forces between Li^+ and He, R. Meyerott and H. Margenau—255(A)

Magnetic properties
Curie transition; alloy and glass containing Ni, W. R. Ham and H. S. Coleman—348(A)
Electron microscope study of domains, L. Marton—353(A)

Magnetic ions, F. Ehrenhaft—62(A); 256(A); 287(L); 349(A)
Magneto-current phenomena in Ni, H. A. Perkins—355(A)
Permeability at rapid rates of change of induction, H. L. Glick and S. Siegel—348(A)
Measurements (see **Methods and instruments**)
Mechanics (see **Dynamics**)
Mechanics, quantum-general
Field-quantization emission of low frequency photons, W. Pauli and J. M. Jauch—255(A)
Generalized electrodynamics, B. Podolsky and C. Kikuchi—228
Kinematical probability, B. Liebowitz—255(A)
Spinning electron, bipolar coordinates, M. H. Payne—39
Mesotrons
Mesotron mass-lifetime ratio, K. Kupferberg and F. Reines—253(A)
Spin of, S. K. Chakrabarty and R. C. Majumdar—206(L)
Methods and instruments
Alpha-helium method, geological ages, R. D. Evans and C. Goodman—216
Amplifier with logarithmic response, J. A. Hipple and D. J. Grove—346(A)
Analysis of a multivibrator, S. C. Snowden—151(A)
Cathode sputtering, theory of, C. H. Townes—319
Cyclotron, emergence of charged particles, P. G. Kruger, J. R. Richardson, G. K. Groetzinger, E. M. Lyman, W. E. Ogle, M. E. Nelson, G. Schwarz, J. B. Greene, R. T. Anderson, N. C. Colbey, R. W. Lee, C. E. McClellan, D. Scag, L. Smith, F. K. Tallmadge—62(A)
Determination of area of crystalline solid, G. Jura and W. D. Harkins—66(A)
Differential equations for probability distribution of events, A. E. Ruark—88; 287(L)
Dispersion at supersonic frequencies, L. N. Liebermann—350(A)
Electron microscopes, apertures, L. Marton and R. G. E. Hutter—161
Fixed points on high voltage scale, A. O. Hanson and D. L. Benedict—33
G-M circuits, performance tests, H. E. Walchli—346(A)
G-M counter corrections, T. P. Kohman—63(A)
Inductive measurement of magnetic field strength, F. T. Rogers, Jr.—354(A)
Instrument oil, S. Bloomenthal—64(A)
Ions, recorded with G-M counters, R. T. K. Murray—63(A)
Irreversible solution, potential measurements, R. H. Brown and R. B. Mears—351(A)
Mass spectrometer with small magnet, R. E. Fox, J. A. Hipple, and T. W. Williams—353(A)
Measurement of x-ray intensities, J. C. M. Brentano and H. Froula—254(A)
Metal cutting process, M. E. Merchant—347(A)
Monochromatic electron sources, radioactive nuclei, M. L. Pool—353(A)
Negative resistance, series generator, G. H. Fett—62(A)
Perturbation of boundary conditions, H. Feshbach—307
Plate calibration for analytical spectroscopy, S. Levy—256(A)
Polyatomic gases in fast counters, S. A. Korff and H. D. Present—274
Portable electron microscope, I. Bensen—353(A)
Precision measurement of velocity of sound, supersonic frequencies, E. J. Groth and L. N. Liebermann—350(A)
Radioactive pure Ce, isolation of, J. D. Kurbatov and M. L. Pool—61(A)
Regulator for high voltages, W. H. Pickering and S. C. Snowden—151(A)
Resonant cavity method for measuring dielectric properties, C. N. Works, T. W. Dakin, and F. W. Boggs—349(A)
Reversed cyclotron, L. E. Dodd—353(A)
"Self-quenching" counters, S. A. Korff and R. D. Present—253(A)
Shock vibrations, frequency character, S. L. Brown—153(A)
Small gravimeter, A. Carnvale—345(A)
Spectroscopic methods of analysis, M. F. Hasler—152(A)
String galvanometer, high sensitivity, A. E. Lockenvitz—153(A)
Thermopile for micro-calorimetry, L. S. Mason—345(A)
X-ray inspection of spotwelds, R. C. McMaster—153(A)
Mobility of ions (see **Ions, mobility**)

Neutrons
Inelastic scattering, R. Weinstock—1
Nuclear structure (see also **Disintegration of nucleus**)
Charge distribution around protons, J. M. Blatt—352(A)
Classification of stable nuclei, deviations, J. D. Kurbatov—351(A); mass numbers 3 and 4, M. H. Kurbatov and J. D. Kurbatov—351(A)
Energy levels of light nuclei, W. Y. Chang—352(A)
Nuclear forces, meson theory, J. M. Jauch and N. Hu—289(L)
New representation of nuclear forces, M. Bunge—249(L)

Optical constants and properties
Intense electrostatic fields, effect on reflectivity, C. K. Strobel—283

Radioactivity (see also **Disintegration of nucleus**)
Alpha-helium method, geological ages, R. D. Evans and C. Goodman—216
Auger electrons from K capture, F. Miller, Jr.—254(A)
β-ray spectra of Pb^{205} and Bi^{207}, A. L. Lutz, M. L. Pool, and J. D. Kurbatov—61(A)
Disintegration of Mn^{54} and Co^{58}, M. Deutsch and L. G. Elliott—211
Excitation functions, bombardment of NaBr, E. T. Clarke and J. W. Irvine, Jr.—352(A)
γ-rays energy of Na^{24}, pair production, W. E. Ogle and P. G. Kruger—61(A); photo-neutron method, M. Goldhaber, G. S. Klaiber, and G. Scharff-Goldhaber—61(A)
K-electron capture in Ag, L. K. Hurst and M. L. Pool—60(A)

Monochromatic electron sources, radioactive nuclei, M. L. Pool—353(A)
Of Cb and Zr, W. N. Moquin and M. L. Pool—60(A)
Of Ag, L. K. Hurst and M. L. Pool—351(A)
Of V^{48}, transmutation of Ti, C. T. Hibdon, M. L. Pool, and J. D. Kurbatov—351(A)
Radioactive pure Ce, isolation of, J. D. Kurbatov and M. L. Pool—61(A)
Variation with particle size, F. Morgan—352(A)

Raman spectra
Of normal-heptane and normal-hexane, F. F. Cleveland and D. E. Lee—350(A)
Of olefinic hydrocarbons, F. F. Cleveland—65(A)

Relativity
Supplementary indeterminacy, G. Wataghin—205(L)

Resistance, electrical (see **Electrical conductivity and resistance**)

Scattering of electrons, neutrons, and ions
Of slow neutrons, inelastic, R. Weinstock—1

Secondary electrons (see **Electrons, secondary**)

Solid state (see **Crystalline state**)

Spectra, absorption
Double-bond, in ultraviolet, J. R. Platt—350(A)
Of alkalis, bands near principal series, S. Y. Ch'en—338
Polymer spectra of a cyanine dye, R. W. Mattoon—65(A)

Spectra, atomic
Forbidden lines of Bi I, S. Mrozowski—65(A)
Forbidden lines of Ca II, P. W. Merrill—152(A)
Isotope shift in Mg, L. G. Mundie and K. W. Meissner—65(A); 265
Magnetic-dipole transitions in Xe and Rn, B. Edlén—248(L).
Structure of λ5461 of Hg^{198}, J. H. Wiens—58(L)

Spectra, continuous
Theory of spectra of H_2 and D_2, experimental verification, A. S. Coolidge—236

Spectra, general
Note on N_2, R. E. Worley—249(L)

Spectroscopy, technique
Plate calibration for analytical spectroscopy, S. Levy—256(A)
Standard of wave-length, light source, C. W. Hsueh—151(A)

Standards (see **Constants, physical**)

Surface tension
Dynamics of capillary action, W. A. Rense—356(A)

Thermionic emission; Emitting surfaces
Adsorption of Th on Ta, C. J. Gallagher—46
Thin films of alkaline earth oxides on metals, G. E. Moore and H. W. Allison—254(A)

Vacuum tubes
Currents carried by electrons, G. Jaffé—91

Viscosity
Effect of rate of shear in oils, F. Morgan and M. Muskat—255(A)

X-rays, absorption
Biological action in x-rays, A. A. Bless—356(A)

X-rays, emission
Auger transitions, widths of levels, J. N. Cooper—155
Continuous spectrum intensity measurements, R. Weinstock—150(L)
Ionization cross section of Ag L_{III} state, J. J. G. McCue—168
Measurement of x-ray intensities, J. C. M. Brentano and H. Froula—254(A)
Term values, x-ray spectra, T. M. Hu—76

Zeeman effect
And magnetic potential energy, F. W. Warburton—349(A)